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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,229	12/08/2004	Hajime Ichimura	040679-1458	2596
22428 7590 08/19/2008 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER KIM, CHONG R	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 08/19/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/517,229

**Applicant(s)**

ICHIMURA ET AL.

**Examiner**

CHARLES KIM

**Art Unit**

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-11 is/are rejected.
- 7) ☒ Claim(s) 6-8, 12 and 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 12/8/04: 2/4/05

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Igarashi et al., U.S. Patent No. 6,126,713 (hereinafter Igarashi).

Referring to claim 1, Igarashi discloses a method for quantitatively evaluating a graphite structure of a gray cast iron by an image analysis apparatus, characterized by comprising the steps of

analyzing a magnified image (100X magnification) of the graphite structure, thereby extracting non-spherical graphite pieces (fig. 13, elements I-III) of a particular size class contained in the graphite structure to calculate the number (graphite spheroid count) and areas (area ratio) of the non-spherical graphite pieces [col. 11, l. 40-col. 12, l. 23 and fig. 13];

calculating a thick and thin degree (graphite spheroidization) expressing a degree of thickness of the non-spherical graphite pieces based on the number and the areas [col. 11, l. 40-col. 12, l. 23 and fig. 13]; and

outputting the number and the thick and thin degree of the non-spherical graphite pieces in combination as an evaluation result [col. 11, l. 40-col. 12, l. 23 and fig. 13].

Referring to claim 2, Igarashi further discloses that the magnified image for the image analyzing step is taken from a microscopic screen image of the graphite structure by an image pickup device [col. 3, ll. 35-41].

Referring to claim 3, Igarashi further discloses that the non-spherical graphite pieces are extracted to calculate the number thereof based on a diameter of a circle having an area equal to that of each graphite piece or on a maximum length of each graphite piece [col. 11, l. 62-col. 12, l. 3].

Referring to claim 4, Igarashi further discloses that the smallest graphite piece of the non-spherical graphite pieces extracted to calculate the number thereof has a size of an area equal to that of a circle having a diameter of 5  $\mu\text{m}$  or a maximum length of 10  $\mu\text{m}$  [col. 11, ll. 54-56].

Referring to claim 5, Igarashi further discloses that the smallest graphite piece of the non-spherical graphite pieces extracted to calculate the number thereof has a size of an area equal to that of a circle having a diameter of 5  $\mu\text{m}$  [col. 11, ll. 54-56].

Referring to claims 9 and 10, see the rejection of at least claim 1 above.

Referring to claim 11, see the rejection of at least claim 5 above.

#### ***Allowable Subject Matter***

2. Claims 6-8, 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Sugiura et al., U.S. Patent No. 4,333,512 discloses a method of determining the degree of nodularity of a spheroidal graphite cast iron sample.

b. Fairbanks et al., "The Effects of Adding Ultrasound During the Production of Nodular Cast Iron" discloses determining the *average size* and distribution of nodular graphite particles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2624

/CHARLES KIM/

Patent Examiner

Art Unit 2624

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August 15, 2008